SPECIAL ARTICLE

The Maudsley family-based treatment for adolescent anorexia nervosa

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Anorexia nervosa (AN) usually onsets in mid-adolescence and presents with serious psychiatric and medical morbidities. Yet, few psychological treatments for this debilitating disorder have been studied. One intervention which involves the parents of the adolescent has proved to be promising, especially in patients with a short duration of illness, i.e., less than three years. The benefits of this family-based treatment have also been shown to be enduring at five-year follow-up. All available studies of psychological treatments for adolescent AN, both controlled trials and case series, are reviewed here. Almost all of them involve parents in treatment. These studies show that the majority of patients, even those who are severely ill, can be treated quite successfully as outpatients provided that the parents participate in treatment. In this family-based treatment, parents are viewed as a resource rather than a hindrance. Optimism regarding these encouraging findings should be tempered until larger scale randomized trials have been conducted.

Key words: Anorexia nervosa, adolescence, family-based treatment

Anorexia nervosa (AN) is a serious illness and has a profound impact on the lives of many individuals and their families. It usually onsets in adolescence and affects about 2% of young women and 1% of males (1,2). AN is characterized by persistent efforts to achieve a low weight, often to the point of severe malnutrition, and is accompanied by a specific psychopathology that includes a morbid fear of fatness. Unrelenting dieting usually leads to weight loss as well as amenorrhea (3).

If weight loss is not reversed, major medical complications, such as bradycardia, peripheral edema and osteoporosis, may develop (4-6). Numerous other complications can also result from AN: interference with physical development, growth and fertility (7), generalized and occasional regional atrophy of the brain (8), poor social functioning (9,10), low self-esteem (11), and high rates of comorbid substance abuse, mood disorders, anxiety disorders, and personality disorders (12,13).

Outcomes for AN are generally not optimistic. Only 44% of patients followed at least 4 years after the onset of illness are considered recovered, i.e., being within 15% of ideal body weight, one-quarter of patients remain seriously ill, and another 5% have succumbed to the illness and died (14). Other studies (15,16) have reported mortality rates as high as 20% in chronically ill adults with AN.

Although there is general consensus regarding the severe morbidity and mortality of AN, only modest efforts have been devoted to the exploration of psychosocial treatments for these patients. While findings from the few published studies for adults with AN are inconclusive, a more optimistic picture has emerged for adolescent AN. The handful of treatment studies that have been conducted for adolescent AN all include the patient's parents in treatment, and most of these reports point to positive outcomes. The aim of this paper is to examine these adolescent studies more closely and put family-based treatment forward as a promising approach for this patient population.

EARLY ACCOUNTS OF FAMILY THERAPY FOR ADOLESCENT ANOREXIA NERVOSA

The first effort to include families in the treatment of AN in adolescents was conducted by Minuchin and his colleagues at the Child Guidance Clinic in Philadelphia (17,18). These clinicians treated a series of 53 patients and provided outcome data for family therapy in a follow-up of this cohort. Most patients were adolescents with a relatively brief illness history (less than 3 years). Treatment was quite mixed, with most patients initially receiving inpatient treatment and some individual therapy. However, the primary intervention was family therapy and the authors reported successful outcome in about 86% of patients. It is due to this success rate, as well as the theoretical model of the "psychosomatic family" upon which much of Minuchin's work was based, that he and his colleagues ultimately exerted considerable influence on ensuing treatment efforts for adolescents with AN (17,18).

A primary distraction from the optimism that Minuchin's findings created is the methodological weaknesses that underlie this study. Members of the treatment team conducted patient evaluations, there were no comparison treatment groups, and follow-up varied greatly (range 18 months-7 years). However, this study did not purport to be a clinical trial and ought to be recognized for its significance in the treatment of AN. Consequently, the underlying theoretical principles and clinical application of Minuchin's approach have served as the foundation for a number of controlled family-based treatment studies which were pioneered at the Maudsley Hospital in London.

CONTROLLED STUDIES OF FAMILY TREATMENT FOR ADOLESCENT ANOREXIA NERVOSA

The Maudsley studies

The first controlled study to build on Minuchin's work was conducted at the Maudsley Hospital in London (19,20). It was a comparison of outpatient family-based

treatment (FBT) and individual supportive therapy following inpatient weight restoration. This study included 80 consecutive admissions of all ages to the Maudsley Hospital. One of four subgroups of patients (n=21) was young (age of onset < 18, mean = 16.6 years) with a short duration of illness (< 3 years). All study patients were initially admitted to the inpatient unit (average stay = 10 weeks) for weight restoration before being randomized to one of the two outpatient follow-up treatments. After one year of outpatient treatment, the subgroup of adolescents had a significantly better outcome with FBT than with individual treatment. Ninety percent of those who were assigned to FBT made a good outcome at five-year follow-up, while only 36% of those who were in the individual therapy made a good outcome (21). Progress in treatment was defined using Morgan-Russell Outcome Assessment Schedule (22), with good outcome indicating a return to normal weight and menses.

The FBT employed in this Maudsley study contained several aspects of Minuchin's approach, but differed in significant ways. Most important of these was that Russell and his colleagues, unlike Minuchin, encouraged parents to persist in their efforts until normal body weight had been achieved. In the Maudsley approach, general adolescent and family issues were deferred until the eating disorder behavior was under control.

Since this seminal work, two studies from the Maudsley group have compared different forms of FBT in adolescent AN (23,24). Both these studies compared the family treatment that was employed in the original Maudsley study in its conjoint format (CFT) versus what was referred to as separated family therapy (SFT). The therapeutic goals for both treatments were similar and both treatments were provided on an outpatient basis. Most notably was that none of the patients in the Le Grange (24) study and only 10% of those in the Eisler (23) study required inpatient treatment during the course of the study. Admission was usually instigated when weight was not responding to the family's efforts, and/or the study physician considered the patient to be at medical risk for continuing outpatient management. Overall results for these two studies were similar and, regardless of type of FBT, approximately 70% of patients were considered to have made a good or intermediate outcome (weight restored or menses returned) at the end of treatment. In a description of the Maudsley FBT (25), it is noted that preliminary results from a 5-year follow-up of Eisler's (23) cohort show that, irrespective of the type of FBT, 75% of patients have a good outcome, 15% an intermediate outcome and 10% have a poor outcome (weight not restored and no menses).

The Maudsley group has also embarked on a more intensive form of treatment for those who do not respond to the typical outpatient FBT alone (26). In conjunction with a group in Germany (27), it has taken preliminary steps to develop an intensive program for adolescents with AN and their families called multiple-family day treatment (MFDT). This treatment shares some similarities with outpatient FBT used in the Maudsley studies and aims to enable families to uncover their own resources in order to restore their starving adolescent's weight. Families are encouraged to explore how the eating disorder and the interactional patterns in the family have become entangled, and how this entanglement has made it problematic for the family to get back on track with their normal developmental course. This program is quite different from outpatient FBT in that the sharing of experiences among families and the intensity of the treatment program (meeting together for several consecutive days) makes this a unique experience for families. Architects of MFDT argue that an emphasis on helping families find their own solutions is even more apparent than is typically the case in FBT (26,27).

This work with adolescent AN is still in a developmental stage and only preliminary findings can be offered at this stage. Both research groups have reported notable symptomatic improvements in several cases, including weight gain, return of menses, reduction of binge eating and vomiting, and decreased laxative abuse. All parents, and a majority of the adolescent patients (80%), regarded working together with other families in a day hospital setting as "helpful" and "desirable", keeping drop-out rates low. In particular, parents who participated in MFDT reported that this treatment was helpful because of its collaborative nature and sharing of ideas with other families about how to cope with their common predicament (27,28).

Continuing the Maudsley approach outside the UK

An important development since the original Maudsley work has been the manualization of FBT that has been implemented in almost all of the London studies (29). This manual was developed to accurately reflect the content and procedures of this specific treatment. The first controlled study outside the UK and the first to use the FBT treatment manual was completed by a group at Stanford in California (30). In this study, 86 adolescents between the ages 12-18 were randomly allocated to either a short-term (10 sessions over six months) or long-term (20 sessions over 12 months) FBT. An intent-to-treat analysis found no differences between the two groups. Post hoc analysis, however, suggested that patients who presented with severe obsessive-compulsive behaviors around their eating disorders or came from non-intact families needed the longer-term version of FBT.

Three case series also employed manualized FBT. In the first of these, Lock and Le Grange (31) describe the process of manualizing the Maudsley approach and report on the results of 19 adolescents with AN who were part of the randomized trial mentioned above (30). These authors report favourable outcomes for the majority of cases. Moreover, their results suggest that, through the use of this manual, a valuable treatment approach can now be tested more broadly in controlled as well as uncontrolled settings. In the sec-

ond case series, Le Grange et al (32) report pre- and post-treatment data for 45 adolescents with AN who have received a course of manualized FBT. Overall, their findings are favourable, in that 89% of cases were recovered or made significant improvements in outpatient treatment over a relatively short period of time (mean = 10 months; mean number of treatment sessions = 17). They conclude that their series provides preliminary support for the feasibility of outpatient FBT which underscores the beneficial impact of active parental involvement in the treatment of adolescents with AN. In the most recent of these series utilizing manualized FBT, an open trial of 20 adolescents with AN, Loeb et al (33) demonstrate high retention rates and significant improvement in the specific and associated psychopathology of their patients.

Work based on the Maudsley approach

Behavioral systems family therapy (BSFT), based on the Maudsley treatment, has been compared to ego-oriented individual treatment (EOIT) (34,35). These researchers reported significant improvement in AN symptomatology at the end of treatment. More than two thirds (67%) of patients reached target weight and 80% regained menstruation. Patients continued to improve and, at one-year follow-up, approximately 75% had reached their target weight and 85% had started or resumed menses. However, there were noticeable differences between the two treatments. Patients in BSFT achieved significantly greater weight gain than those in EOIT, both at the end of treatment and at follow-up. Similarly, patients who received BSFT were significantly more likely to have returned to normal menstrual functioning at the end of treatment compared to those in EOIT. Both treatments were similar in terms of improvements in eating attitudes, depression, and self-reported eating-related family conflict. Neither group reported much family-related conflict regarding eating, either before or after treatment. While both treatments produced comparable improvements in eating attitudes and depression, BSFT produced a more rapid treatment response.

While BSFT was modelled after the Maudsley approach, it differed in some important albeit subtle ways. First, Robin et al (35) defined the adolescents in their study as "out of control" and not able to take care of themselves, while the parents were coached to implement a behavioral weight gain program. This differs somewhat from the Maudsley approach, in that parents were to explore and, with the help of the therapist, find the optimal way to restore healthy weight in their adolescent with AN. Second, Robin et al (35) broadened the focus of treatment to include cognitions and problems in "family structure" while the parents were still in charge of the re-feeding process. The Maudsley approach typically would refrain from "distractions" until weight has been restored. Both BFST and the Maudsley approach would return control over eating to the adolescent when target weight was achieved, and in the final stage of treatment focus discussions on adolescent issues such as individuation, sexuality and career.

Family treatment in an inpatient setting

Only one study employed family therapy in an inpatient setting. Geist et al (36) compared two modes of treatment: family therapy versus family group psychoeducation. The effects of these interventions are difficult to evaluate, as nearly half of the family treatment occurred in the context of an inpatient setting. Most of the recorded weight gain (76%) was achieved prior to discharge from hospital, with equivalent treatment effects observed with both family interventions. The authors argued that family group psychoeducation is an equally effective but more economical method of involving the family in treatment (36).

UNCONTROLLED FAMILY TREATMENT STUDIES

Since the seminal works of Minuchin (17,18) and Russell (19,20), and in addition to the case series already reported above, several smaller case series using family therapy have been published (37-45). Although modest in sample size, all these studies have demonstrated the value of employing parents in the recovery of their adolescent with AN. Taken together, results are supportive of family treatments for adolescent AN, although only provisional conclusions can be drawn from uncontrolled studies that describe a relatively small series of cases. However, in conjunction with Minuchin's work, as well as the controlled studies, these preliminary investigations further emphasize the value of the family's involvement in the treatment of adolescents with AN.

DISCUSSION

Most of the studies involving adolescents with AN suggest that family therapy is helpful in younger patients with a short duration of illness and that most patients do not require hospitalization for recovery to occur. For the most, 70% of patients will have reached a healthy weight by the end of treatment, while a majority will have started or resumed menstruation. At five years post treatment, 75-90% of patients are fully recovered and no more than 10-15% will remain seriously ill (23,25).

The involvement of parents in the treatment of their AN offspring appears beneficial, but conclusions can only be made provisionally. FBT encourages parents to take an active role in restoring their adolescent's weight and, for now, seems to have some advantages over the more "routine" advice to parents, which is to involve them in a way that is supportive and understanding of their child, but encourages them to step back from the eating problem. However, many aspects regarding the effectiveness of FBT remain unanswered. For instance, it is unclear how best to involve parents in treatment or how essential their active involvement might be, given the limited data. Both Eisler et

al (23) and Le Grange et al (24) suggest that conjoint FBT conveys an advantage to a separated format of this treatment in addressing both family and individual psychological issues. However, conjoint FBT may have disadvantages for families in which high levels of hostility or criticism toward the AN adolescent are present. Engaging these families in treatment can be a challenge (46,47) and this may be particularly true when the family is seen together in session. This challenge around engagement might be associated with parental guilt and blame that increase as a consequence of criticisms or confrontations occurring during family sessions (48). On the other hand, it now seems possible that FBT in its manualized format be implemented in ways to alter parental criticism, thereby enhancing commitment to treatment (31,32).

Based on current evidence, albeit limited, FBT appears to be the treatment of choice for adolescent AN. This elevated status must be tempered by the lack of research on other treatments for AN. For instance, EOIT shows good promise as well, but has only been employed in one controlled study (35). Moreover, CBT or psychodynamic treatments for AN are described in the literature (49,50), but have not been systematically evaluated, and their relative merits in comparison with FBT are not known. Similarly, MFDT (27) is a promising new development, but as yet there is no systematic evidence for its effectiveness. However, the Maudsley group is currently engaged in exploring the efficacy of this intensive treatment more systematically. Another avenue that requires further elucidation is our understanding of the relative efficacy of inpatient treatment versus outpatient psychotherapy, especially for adolescent AN. Gowers and his colleagues in the UK have embarked on this route (51).

While our knowledge about the best treatment for adolescent AN is hampered by few and underpowered studies, there have been some promising developments in the past several years. The most helpful of these perhaps has been the manualization of the Maudsley FBT (29). With this manual, the pioneering work of the Maudsley group could begin to be disseminated and replicated outside its site of origin. It is particularly in the US that FBT for adolescent AN has been embraced with some enthusiasm (31-33). We also know more about how intensely FBT should be implemented in order to facilitate maximum benefit from this intervention. This is somewhat contrary to conventional belief that most young patients can benefit from relatively brief outpatient FBT (30). Finally, the relative efficacy of FBT can only be established through a rigorously conducted and well-powered randomized controlled trial. Such a multi-site trial is currently underway at Chicago and Stanford in the US.

In conclusion, despite many obstacles, FBT has gradually been established over the past twenty-five years as an important therapeutic approach for adolescent AN. The prominence of this outpatient treatment of adolescent AN has been an important contribution to the evolution of helpful interventions in the management of the disease. However, further exploration in the form of randomized controlled trials to establish the true significance of the role of the family in AN treatment is sorely needed.

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